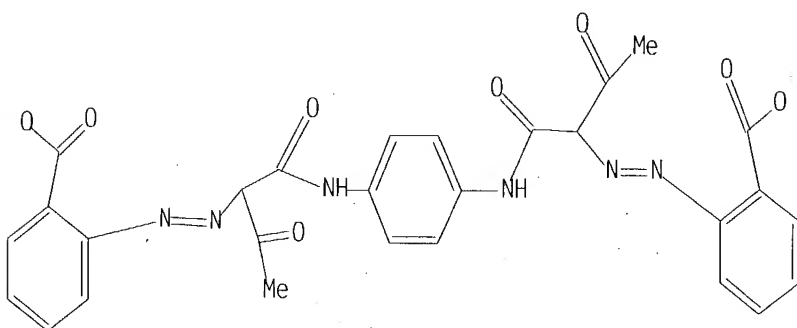


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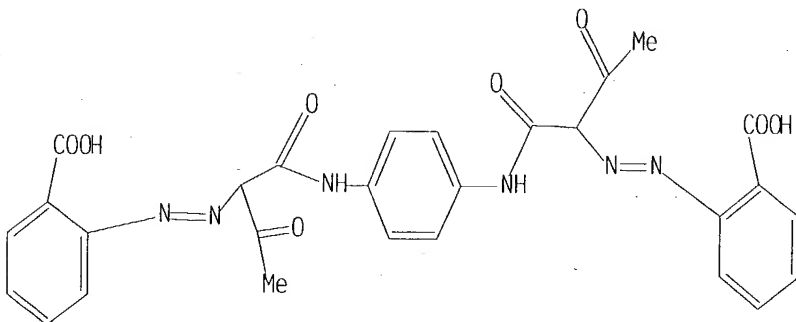
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0 ANSWERS

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10/666.435

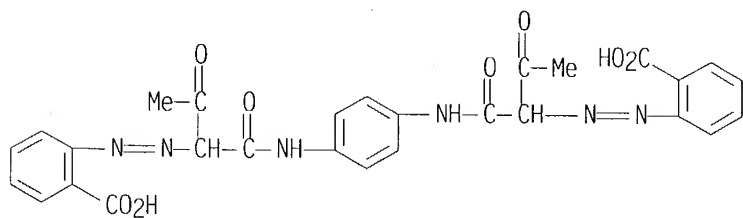
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5 ANSWERS

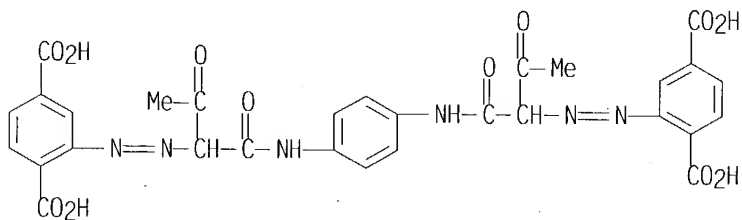
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L10 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN 384818-50-2 REGISTRY
CN Benzoic acid, 2,2'-[1,4-phenylenebis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, calcium salt (1:1) (9CI) (CA INDEX NAME)
MF C28 H24 N6 O8 . Ca
SR CAS Client Services
CRN (156564-68-0)



●Ca

L10 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN 359688-15-6 REGISTRY
CN 1,4-Benzenedicarboxylic acid, 2,2'-[1,4-phenylenebis[imino(1-acetyl-2-oxo-
2,1-ethanediyl)azo]]bis-, tetrasodium salt (9CI) (CA INDEX NAME)
MF C30 H24 N6 O12 . 4 Na
SR CA
LC STN Files: CA, CAPLUS

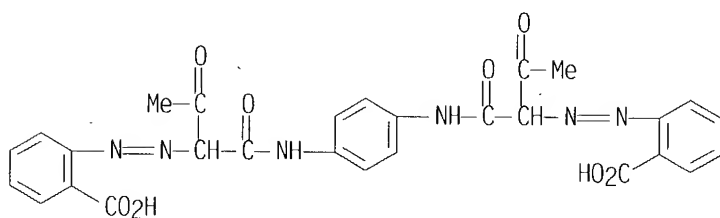


● 4 Na

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:228321

L10 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN 156564-68-0 REGISTRY
CN Benzoic acid, 2,2'-[1,4-phenylenebis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C28 H24 N6 O8
CI COM
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

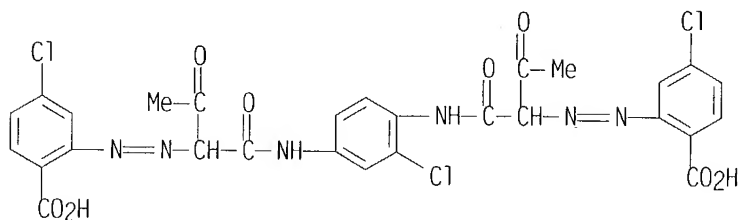


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 121:111471

L10 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN 91991-64-9 REGISTRY
CN Benzoic acid, 2,2'-[(2-chloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C28 H21 Cl3 N6 O8
LC STN Files: CA, CAPLUS



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 101:132460

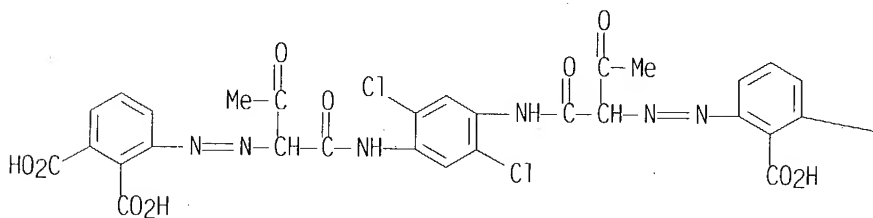
L10 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN 57532-26-0 REGISTRY
CN 1,2-Benzenedicarboxylic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C30 H22 Cl2 N6 O12
LC STN-Files: BEILSTEIN*, CA, CAPLUS, CHEMLIST, IFICDB, IFIPAT, IFIUDB, USPATFULL

(*File contains numerically searchable property data)

Other Sources: EINECS**, NDSL**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

PAGE 1-A



PAGE 1-B

-CO2H

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 84:6482

=> fil capl

FILE 'CAPLUS' ENTERED AT 17:27:50 ON 25 FEB 2004

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FILE COVERS 1907 - 25 Feb 2004 VOL 140 ISS 9

FILE LAST UPDATED: 24 Feb 2004 (20040224/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'FIONA' IS DEFAULT FORMAT FOR 'CAPLUS' FILE

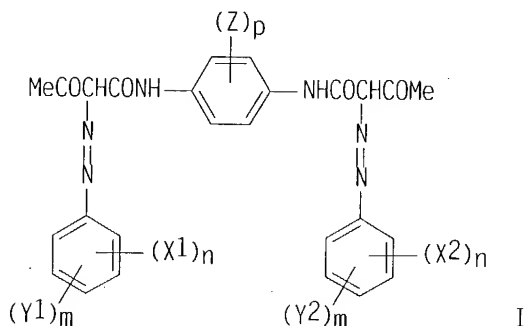
=> s l10

L11 4 L10

=> d 1-4 bib abs hitstr

L11 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:714665 CAPLUS
 DN 135:228321
 TI Bis-azo compounds and their use in pigment/ink compositions for improved dispersion properties
 IN Tirel, Malcolm David; Rose, Peter Edward
 PA Ilford Imaging UK Ltd., UK
 SO Brit. UK Pat. Appl., 18 pp.
 CODEN: BAXXDU
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2356866	A1	20010606	GB 1999-28109	19991130
	GB 2356866	B2	20040128		
PRAI	GB 1999-28109		19991130		
OS	MARPAT 135:228321				
GI					



AB Bis-azo compds. I were derived from diazotized (carboxy/sulfo)-anilines and 1,4-bis(acetoacetamido)phenylenes, where X1 and X2 = SO₃H or COOH or their sodium salts, Z = SO₃H, Y1, Y2, and Y1 and Y2 = H, C1-4 alkyl, halogen, OR, COOR (R = C1-4 alkyl) or COOH or salt forms, m = 0-2, n = 1-2 and p = 0-2. These compds. can be used in inks for improving the dispersion properties of aqueous compns. comprising yellow or orange pigments.

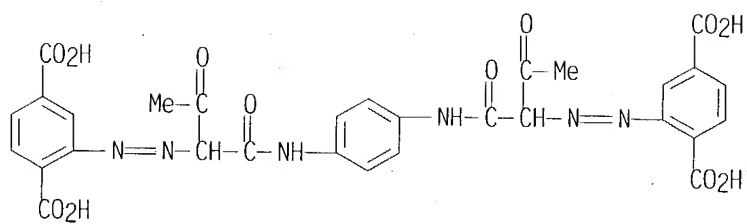
IT 359688-15-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(Bis-azo compds. and their use in pigment-ink compns. for improved dispersion properties)

RN 359688-15-6 CAPLUS

CN 1,4-Benzenedicarboxylic acid, 2,2'-[1,4-phenylenebis(imino(1-acetyl)-2-oxo-2,1-ethanediyl)azo]]bis-, tetrasodium salt (9CI) (CA INDEX NAME)

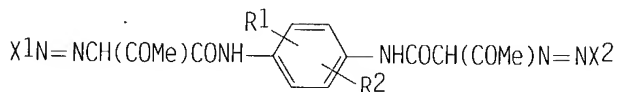


●4 Na

L11 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:511471 CAPLUS
 DN 121:111471
 TI Preparation and use of disazo pigments
 IN Jung, Ruediger; Weide, Joachim; Metz, Hans Joachim
 PA Hoechst A.-G., Germany
 SO Ger. Offen.. 24 pp.
 CODEN: GWXXBX
 DT Patent
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4229207	A1	19940303	DE 1992-4229207	19920902
	DE 4229207	C2	19981217		
	IN 179812	A	19971213	IN 1993-CA347	19930621
	EP 585873	A1	19940309	EP 1993-113899	19930831
	EP 585873	B1	19971229		
	R: BE, CH, DE, DK, ES, FR, GB, IT, LI				
	ES 2112937	T3	19980416	ES 1993-113899	19930831
	JP 06166826	A2	19940614	JP 1993-217717	19930901
	US 5559216	A	19960924	US 1993-115894	19930901
PRAI	DE 1992-4229207	A	19920902		
OS	MARPAT 121:111471				
GI					



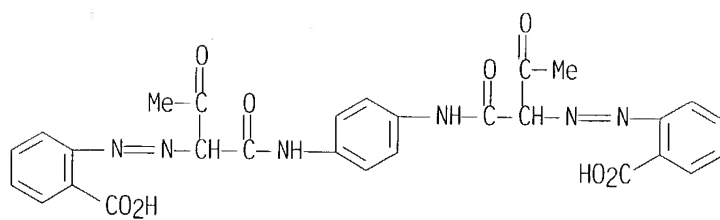
AB The pigments (I; R₁, R₂ = H, halogen, C₁-4-alkyl, C₁-4-alkoxy, alkoxy carbonyl, NO₂, CN, OPh, CF₃; X₁, X₂ = optionally substituted Ph, naphthyl, anthraquinonyl, or condensed heterocyclic group) are obtained by aqueous 1-step azo coupling using ≥1 nonionic surfactant (having an aqueous cloud point) before isolation of the pigment and are used for printing inks. I thus obtained have improved coloristic properties. Thus, 4,2-O₂N(MeO)C₆H₃NH₂ was diazotized and coupled 2:1 with p-C₆H₄(NHCOCH₂COMe)₂ using an ethoxylated, propoxylated C₁₂-15 fatty alc. to give an orange pigment. The pigment purity was improved by use of the surfactant.

IT 156564-68-0P

RL: IMF (Industrial manufacture); PREP (Preparation)
 (preparation of, as yellow pigment for printing inks)

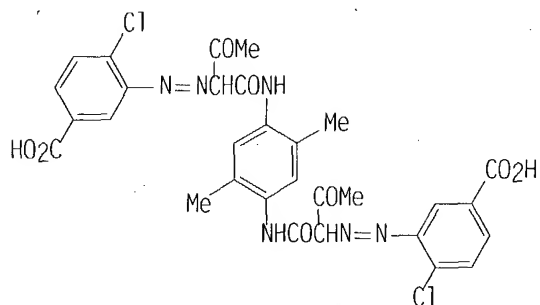
RN 156564-68-0 CAPLUS

CN Benzoic acid, 2,2'-[1,4-phenylenebis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis- (9CI) (CA INDEX NAME)



L11 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1984:532460 CAPLUS
 DN 101:132460
 TI Disazo dyes based on aminobenzoic acids and bis(acetoacetamides)
 IN Dobrovolny, Jan; Bartosek, Jan; Havlickova, Libuse; Kolonicny, Alois;
 Panek, Jan; Kvapilova, Lenka; Weisbauer, Vaclav
 PA Czech.
 SO Czech.. 6 pp.
 CODEN: CZXXA9
 DT Patent
 LA Czech
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 208620	B	19810915	CS 1979-8535	19791207
PRAI	CS 1979-8535		19791207		
GI					



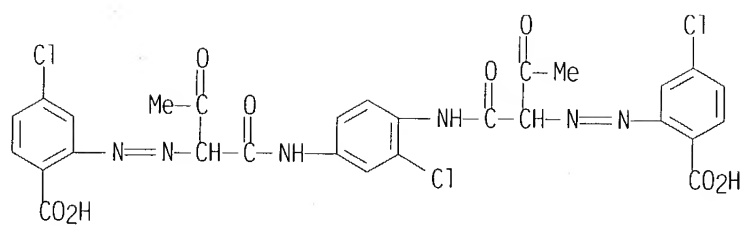
AB Pure yellow disazo dyes of general structure $[HO_2CZ:N=NCH(COMe)CONH]_2Z_1$ (Z = phenylene optionally substituted by halogen, alkyl, alkoxy, CF₃, carbalkoxy, or NO₂; Z₁ = arylene optionally substituted by 1 or 2 halogen atoms, alkyl, alkoxy, CF₃ or CN) are prepared by coupling a diazotized aminobenzoic acid with an aromatic bis(acetoacetamide) (mol. ratio 2:1) in an aqueous suspension or solution at pH 3.5-13 and 0-80°. The components are mixed in various ways depending on pH, and the dye is isolated as the free diacid and/or the di-Na salt. Up to 10% dispersing agents may be added. Thus, a solution of 35.4 g 4,3-Cl(H₂N)C₆H₃CO₂H [2840-28-0] was diazotized and added to a suspension of 30.4 g 1,4-bis(acetoacetyl amino)-2,5-dimethylbenzene [24304-50-5] (prepared by precipitation of its alkaline enolate with AcOH) at pH 5.2 and 60° to give a paste containing 65.6 g I [74351-78-3].

IT 91991-64-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (dye, manufacture of)

RN 91991-64-9 CAPLUS

CN Benzoic acid, 2,2'-[(2-chloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediy)azo]]bis[4-chloro- (9CI) (CA INDEX NAME)



L11 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1976:6482 CAPLUS

DN 84:6482

TI Disazo tetracarboxylic acid dyes

IN Towle, Jack L.

PA Chemetron Corp., USA

SO Ger. Offen., 21 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2511092	A1	19751002	DE 1975-2511092	19750313
	US 3951943	A	19760420	US 1974-451873	19740318
	CH 612210	A	19790713	CH 1975-2330	19750225
	GB 1497437	A	19780112	GB 1975-10343	19750312
	JP 50126634	A2	19751004	JP 1975-32131	19750317
	FR 2270239	A1	19751205	FR 1975-8447	19750318
	FR 2270239	B1	19790928		
PRAI	US 1974-451873		19740318		

GI For diagram(s), see printed CA Issue.

AB Disazotetracarboxylic acids (I, Z = 2,5-dichloro-p-phenylene, 3,3'-dimethyl-4,4'-biphenylene) were prepared in >96% yield by coupling diazotized 2,3-(HO₂C)2C₆H₃NH₂ [5434-20-8] with (MeCOCH₂CONH)2Z in an aqueous tetrahydrofuran [109-99-9] solution. Dehydration of the dicarboxylic acids gave the corresponding anhydrides and treatment with amines gave the corresponding carboximide derivs.

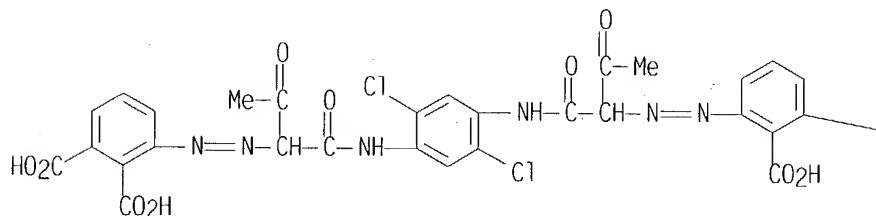
IT 57532-26-0P

RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of)

RN 57532-26-0 CAPLUS

CN 1,2-Benzenedicarboxylic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



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Page 16

PAGE 1-B

—CO₂H

10/666,435

Page 17

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COST IN U.S. DOLLARS

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FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
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